

**STANDARDS FOR THE CALIBRATION OF A VACUUM
THERMOGRAVIMETRIC ANALYZER FOR DETERMINATION OF
VAPOR PRESSURES OF COMPOUNDS**

ABSTRACT OF THE INVENTION

5 The invention provides a set of standards for accurately calibrating a vacuum
thermogravimetric analyzer (VTGA). The invention solves the problem of calibrating a
VTGA by using the actual magnetic transitions and associated transition temperatures, or
Curie temperatures, T_c 's, of a set of standards which can be used in-situ at the location of
the sample holder obviating the difficulties associated with indirect methods of
10 calibration. The set of standards permits accurate calibration through sufficiently
numerous calibration points over a rather limited low-temperature range for determining
vapor pressures of compounds. The set of temperature calibration standards is fabricated
from slugs of ferromagnetic material. The composition of the ferromagnetic material in
each slug is altered by alloying a ferromagnetic constituent with a non-ferromagnetic
15 constituent to provide a plurality of standards with different Curie temperature over the
limited temperature range. In particular, an embodiment of the invention using alloys of
Ni and Cu where the amount of Cu varies between less than 10% up to approximately
50% by weight provides a set of standards that can span temperatures in any selected
range from approximately 300 C to -150 C respectively.